



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8**

1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
<http://www.epa.gov/region08>

JAN 23 2012

Ref: EPR-N

Ms. Kristin Yannone, RMP Project Manager
Bureau of Land Management
Lander Field Office
P.O. Box 589
Lander, Wyoming 82520-0589

Re: Lander Draft Resource Management Plan
and Environmental Impact Statement
CEQ #20110299

Dear Ms. Yannone:

The U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the Lander Draft Resource Management Plan and Environmental Impact Statement (Draft RMP and EIS) pursuant to our responsibilities and authority under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and Section 309 of the Clean Air Act (CAA), 42 U.S.C. Section 7609. The EPA is a cooperating agency and provided technical assistance to BLM on matters involving air quality during the development of the Draft RMP and EIS.

Background

The Draft EIS considers updates to the Lander RMP, which provides management direction to the BLM on planning issues including: energy resources; watershed and air management; livestock grazing; travel management; and wildlife habitat. The Lander planning area is located in west-central Wyoming in the Wind River Basin and is bordered by the Bridger-Teton National Forest and the Shoshone National Forest (Wind River Range of the Rocky Mountains) on the west. Within the 6.6 million acre planning area, the BLM administers approximately 2.4 million acres of surface land and 2.8 million acres of federal mineral estate. The BLM's Preferred Alternative, Alternative D, proposes to balance the use and conservation of planning area resources. Under the alternatives considered, reasonably foreseeable development of federal oil and gas and coalbed natural gas ranges from 1,528 to 2,284 wells.

EPA's Comments and Recommendations

The EPA has two remaining concerns with this Draft EIS, which are discussed in this letter. They are 1) protection of groundwater resources and, 2) potential impacts to air quality. Below we explain each of these concerns and offer recommendations on how the BLM might address them. In addition we have also provided the enclosed "EPA Detailed Comments," which includes additional detail pertaining to these issues as well as addresses concerns regarding surface water resources and wetlands (See Attachment 1).

1. Protection of Groundwater Resources

A. *Incomplete Disclosure of Groundwater Characteristics and Potential Impacts*

The Draft RMP/EIS does not appear to fully characterize current groundwater conditions and thus does not fully support disclosure of potential impacts to groundwater water resources. More specifically, the Draft RMP/EIS acknowledges that the planning area includes sensitive drinking water resources, but it appears not to use current and complete information to evaluate sensitive drinking water resources. Key information gaps include:

- The location and extent of the groundwater recharge areas;
- Identification of shallow and sensitive aquifers that are susceptible to contamination from surface activities;
- Characterization of wellhead protection areas;
- Characterization of source water protection zones designated by the State of Wyoming.

As you may know, the Wyoming Water Development Commission and Wyoming State Geological Survey updated and expanded the 2003 Available Groundwater Determination Technical Memorandum (Lidstone and Associates, Inc., 2003). This report is currently available for public comment. EPA recommends that BLM incorporate the 2011 data from this report to ensure that the Final RMP/EIS discloses:

- The major aquifers in the basin, their three dimensional extent, and the physical and chemical characteristics of their groundwater; estimates of the quantity of water in the aquifers and aquifer recharge rates;
- Descriptions of the aquifer recharge areas.

EPA also recommends the BLM draw from the *Wyoming Groundwater Vulnerability Assessment Handbook* (SDVC Report 98-01, 1998) by including in the Final RMP/EIS maps of aquifer sensitivity and identifying shallow groundwater aquifers susceptible to contamination.

In short, using this updated information in the Final RMP/EIS will maximize the BLM's ability to determine where leasing stipulations and/or mitigation and monitoring measures may be needed to protect current and future drinking water resources. As this information is likely to be revised within the 20 year timeframe of the RMP, the EPA further recommends the BLM include a commitment in the Final RMP/EIS to periodically (including annually, where feasible) confirm that the most current groundwater information is being applied in the planning area.

B. *Lack of Information Regarding Mitigation Measures To Protect Groundwater*

The Draft RMP/EIS provides insufficient information regarding mitigation measures that could be employed to protect important groundwater resources as oil and gas exploration and production, and its associated activities, which have the potential of contaminating groundwater proceed.

According to the Draft RMP/EIS, one of the key ways the BLM intends to position itself to address these potential impacts is to establish and require operators to employ best management practices (BMPs). However, the Draft RMP/EIS does not provide sufficient information to assess how well the

BMPs will do their job. The EPA therefore suggests that the BLM include in the Final RMP/EIS the following information and explain the circumstances under which it would require operators to employ BMPs to mitigate significant impacts from oil and gas:

- A list of BMPs that may be required to protect groundwater resources. The BLM may wish to use the groundwater BMPs developed for the Pinedale Anticline oil and gas field, since they were designed after extensive effort to respond to monitored groundwater contamination.
- A discussion of the circumstances under which the BMPs would be applied (e.g., proximity to wetlands, shallow water aquifers, or water wells.) (See Attachment 2)
- An explanation of how BLM would ensure that the BMPs would be monitored and enforced.

EPA also recommends that BLM clarify exactly how it will ensure protection of sensitive drinking water resources through avoidance measures in critical areas (i.e. groundwater and/or surface water zones one and/or two) that could include no leasing or no surface occupancy. Source water protection and sensitive aquifer identification are important because these essential water resources serve people who could be exposed to any contaminants in the water over a long period of time. Our specific recommendations for stipulations are attached (See Attachment 2).

C. Groundwater Monitoring

EPA believes the Final RMP/EIS needs to include additional information necessary for evaluating, and thus disclosing, the adequacy of the BLM's planned groundwater monitoring program. While the Draft RMP/EIS indicates the BLM plans to require groundwater monitoring, the document does not indicate how BLM will do this and under what circumstances monitoring would be required. An essential component of future project-level monitoring is baseline and long-term monitoring for private wells. Importantly, in the absence of groundwater modeling to determine the distance from the project at which impacts may occur, EPA recommends the BLM adopt a requirement for monitoring to occur in private wells within one mile of an oil, gas or coalbed methane project area (the BLM Pinedale Anticline project and the U.S. Forest Service Eagle Prospect project are examples of where similar monitoring programs have been established). This monitoring will help assure mitigation measures are adequate and that groundwater resources are being fully protected.

Baseline groundwater monitoring may also be a useful means by which to identify the depths and extent of aquifers used or that could be used for drinking water, referred to as Underground Sources of Drinking Water (USDWs). Aquifers are presumed to be USDWs unless they have been specifically exempted or if they have been shown to fall outside the definition of USDW (e.g., over 10,000 mg/L TDS). In section 3.1.4 Water-Groundwater: Groundwater Trends, a statement refers to the Madison Formation as "contains potable water, but the EPA has deemed it to be too deep to be considered a potential source of drinking water (BLM 2009b)." While some injection wells in the planning area may have received aquifer exemptions for the Madison Formation, the exemptions apply only to specifically defined portions of the aquifer, generally related to specific permitting actions. In other words, they do not broadly apply across the entire aquifer. If water quality in certain portions of the Madison Formation meets the USDW definition, it is protected as a drinking water resource. Given this consideration, EPA recommends that the Final RMP/EIS include a commitment that future project-level NEPA analyses for oil and gas development will contain project specific comprehensive groundwater monitoring plans and program to track potential groundwater impacts as drilling and production operations occur (e.g. the

Pinedale Anticline project and Eagle Prospect project are examples of where similar monitoring programs have been established).

2. Air Quality

With one exception, EPA believes the Draft RMP/EIS sets a high standard in Wyoming for disclosing air quality information, qualitatively discussing potential air quality impacts and presenting a path forward for quantitatively assessing impacts and mitigating them if warranted. The Air Resources Management Plan contained in this document outlines specific requirements, including modeling and mitigation, applicable to project proponents whose actions may adversely impact air resources within the planning area.

The exception and area of concern EPA has with the Draft RMP/EIS involves the threshold for when a future quantitative air quality modeling and impact analysis will be performed and the monitoring data used as basis for determining whether the threshold is exceeded. Based on our review of the Draft RMP/EIS, EPA understands that BLM has used the extensive and detailed emission inventory to project a substantial increase in emissions of certain pollutants over the 2008 baseline inventory. More specifically, BLM is projecting that emissions of particulate matter, nitrogen oxides, volatile organic compounds and hazardous air pollutants will increase 160 to 180 percent by 2018 under the Preferred Management Alternative. This projection assumes that oil and gas development will remain the single largest contributor to total air pollutant emissions.

As proposed, the Air Resources Management Plan currently requires air quality modeling or a demonstration of no net increase in annual emissions **only after** existing air quality conditions reach 85 percent of the National Ambient Air Quality Standards (NAAQS) or the proposed project has the potential to emit more than 100 tons per year of any given criteria pollutant (F3.1.4, F3.1.5, F3.1.6, F4.3.1). EPA's concern with this approach is that it relies on limited air monitoring data that exists at only four locations within a large geographical area. We are further concerned that this data, generated from locations which are not necessarily representative of the air quality in sensitive areas, do not offer needed information to protect these areas.

To address this key concern, EPA recommends that the BLM modify Section 3.1 Authorization of Air Emission Generating Activities (F3.1.2) to incorporate all the air quality modeling criteria developed in the recent interagency NEPA Air Quality MOU, since they were developed for precisely this purpose.¹ These criteria include a commitment in the Final RMP/EIS to conduct modeling that assesses impacts to air quality and/or air quality related values if a proposed action meets at least one of the following conditions listed below in (a) and at least one of the criteria listed below in (b).

a. *Emissions/Impacts* – the proposed action:

- Is anticipated to cause a substantial increase in emissions based on the emissions inventory; or
- Will materially contribute to potential adverse cumulative air quality impacts as determined under NEPA.

b. *Geographic Location* – the proposed action is in:

¹ After the Lander Air Resources Management Plan was developed, the EPA, U.S. Department of Interior (DOI) and the U.S. Department of Agriculture (USDA), signed the Memorandum of Understanding Regarding Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions Through the NEPA Process. Since the Lander Draft RMP/EIS was issued within 90 days of the effective date of the MOU, the provisions of the MOU are not applicable.

- Proximity to a Class I or sensitive Class II Area; or
- A Non-Attainment or Maintenance Area; or
- An area expected to exceed the NAAQS or Prevention of Significant Deterioration (PSD) increment based on:
 - Monitored or previously modeled values for the area;
 - Proximity to designated Non-Attainment or Maintenance Areas; or
 - Emissions for the proposed action based on the Emission Inventory.

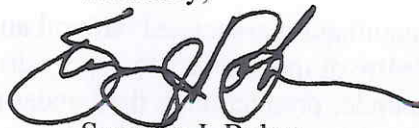
We also recommend that the Air Resources Management Plan disclose the location of the five federal Class I areas (North Absaroka, Washakie, Fitzpatrick, and Bridger Wilderness Areas, and Yellowstone National Park) that are located inside or within 40 miles of the planning area in Section F2.2. The presence of these sensitive areas in proximity to the planning area underscores the importance of a thorough analysis and protection of air quality and air quality related values.

Conclusion and the EPA's Rating

Consistent with Section 309 of the Clean Air Act, it is the EPA's responsibility to provide an independent review and evaluation of the potential environmental impacts of this project. In accordance with our policies and procedures for reviews under NEPA and Section 309 of the Clean Air Act, the EPA is rating this Draft EIS as "Environment Concerns – Insufficient Information" (EC-2). The "EC" rating indicates that our review has identified environmental impacts that should be avoided in order to fully protect the environment. The "2" rating indicates that the Draft EIS does not contain sufficient information for the EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment. As our comments suggest, the EPA recommends the identified additional information be included in the Final EIS.

If you have any questions or would like to discuss our comments, please contact me at (303) 312-6925. You may also contact Molly Vaughan, lead reviewer for this project, at (303) 312-6577 or by email at vaughan.molly@epa.gov.

Sincerely,



Suzanne J. Bohan
Director, NEPA Compliance and Review Program
Office of Ecosystems Protection and Remediation

cc: Buddy Green
Enclosures (3)

ATTACHMENT 1
The EPA's Detailed Comments
Lander Draft RMP/EIS

Protection of Groundwater Resources

1. Freshwater Consumption:

Well completion activities and enhanced oil recovery operations typically use freshwater. The EPA recommends reuse of produced water for these activities to reduce the use of drinking water resources and help ensure the long term sustainability of these operations. Other environmental benefits of reuse of produced water include:

- Reduced reliance on evaporation ponds which leads to:
 - reduced potential for ground water or surface water contamination; and
 - reduced air emissions (odor, volatile organic compounds, and hazardous air pollutants).
- Reduced reliance on additional subsurface disposal (underground injection control (UIC) injection wells) which leads to associated energy and cost savings.

2. Protection of Underground Sources of Drinking Water and Groundwater Monitoring:

The potential long-term impacts of dewatering coalbed aquifers for purposes of developing the gas resource could be significant if not managed. Typical coalbed methane production draws water from the aquifer to reduce the hydrostatic head and increase production of gas from the coal seam. This type of draw down can lower the water table rendering the drinking water wells unusable during production. The EPA recommends that the Final RMP/EIS and Record of Decision (ROD) include a commitment that operators will conduct analysis sufficient to determine the potential impacts of draw down and identify mitigation measures to address any short or long-term impacts (i.e. replace reduced or impacted water supplies).

Additionally, potential contamination associated with oil and gas production practices in the project area could threaten the future ability of the aquifers to supply drinking water by introducing chemicals into the aquifer. The coal zones under production in the Lander planning area may qualify as USDWs pursuant to the Safe Drinking Water Act. As previously mentioned, these USDWs that are associated with coalbed methane production zones should be identified. EPA therefore recommends that the Final EIS list and discuss the full range of potential impacts to USDWs from oil and gas operations.

Due in part to the existence of a large number of older wells in the planning area (Draft RMP/EIS, page 292), EPA is concerned that some existing wells could be recompleted and produced without application of current state standards for cementing and casing wells. More specifically, there may be a lack of adequate cement behind well casing, which could allow a well to act as a conduit for fluid or gas movement. To address this concern, EPA recommends the Final RMP/EIS include the following:

1. Require operators planning to recomplete an existing well to comply with all state or federal standards applicable to new well construction.

2. Require operators to analyze cement bond logs associated with any existing well located within one-quarter mile of completing a new well or recompleting an existing one. These measures will help manage potential impacts to groundwater resources and protect these resources. This approach is of particular importance in shallower production zones because of their closer proximity to drinking water aquifers.
3. Outline how existing recompleted wells will be tested and monitored to ensure adequate construction prior to stimulation activities.
4. Analyze and disclose reasonable mitigation measures to address potential impacts.

Produced Water Generation, Discharge and Disposal

As gas production has increased in the planning area, so too has the need to dispose of produced water. The Draft RMP/EIS states that cumulative produced water through August 2007 was 4,389,859,424 barrels. It is unclear what volume of this produced water is being discharged through Clean Water Act (CWA) National Pollutant Discharge Elimination System (NPDES) permits, but the EPA is aware that it is a disposal method that is used in the planning area. Given the large volume of produced water in this area, EPA recommends that the BLM emphasize in the Final RMP/EIS that all produced water must comply with applicable federal and state water quality standards, and where possible, operators must treat, reuse and recycle it.

The Draft RMP/EIS states that point source discharges of produced water can erode soil. In parts of the planning area, such as in the Gun Barrel Oil and Gas Unit, point source discharges include water containing high levels of selenium. We understand the BLM is working with operators in the unit to decrease soil erosion resulting from the state-authorized discharges. The EPA supports the BLM's efforts and reinjection as the preferred method of produced water disposal, since selenium is a conservative pollutant (does not break down), and is known to impact humans, fish and wildlife. We ask that the BLM clarify whether the discharge is occurring in waters tributary to the Wind River Indian Reservation. Given the EPA's and the BLM's responsibility to protect resources on the Wind River Indian Reservation, the EPA can assist the BLM with water management plans that protect public health and the environment.

Protection of Surface Water Quality

According to the Draft RMP/EIS, there are three stream segments currently listed by the State of Wyoming on the CWA Section 303(d) List. This list identifies waters of the State that have impaired water quality and require a total maximum daily load allocation (TMDL). Given the potential for RMP management activities to cause or contribute to further water quality impairments in the planning area, we support the BLM's effort to incorporate Management Actions 1025 through 1042 into Table 2.10 to address the goal to "Maintain or improve surface water and groundwater quantity consistent with applicable state and federal standards and regulations." To facilitate implementation of these management actions, the EPA recommends the following:

- Provide additional detail and clarification in the Final RMP/EIS on how the water management actions will be implemented and monitored specifically for sediment. (Draft RMP/EIS, Table 2.10, page 67). The management actions indicate Wyoming water quality standards will be met, but in the case of sediment, this can be difficult to ascertain because the Wyoming DEQ has not defined a numerical standard for this pollutant. Due to the amount of projected surface disturbance associated with the development of 1,528 to 2,284 wells, runoff of sediment has the potential to be a major impact of future activities under this RMP. We therefore recommend that the Final RMP/EIS specify that future operators will be required to include sediment control features as well as provision for monitor for those features in their plan of operations.
- Apply the No Surface Occupancy (NSO) stipulation for 100 year floodplains. Executive Order 11988 Floodplain Management calls on Agencies to avoid to the extent possible the long and short term impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.
- Update Table 3.7 “Sub-basins in the Planning Area” to include the most current information from the Wyoming DEQ 2010 305(b) report rather than relying on the 2006 305(b) report (Draft RMP/EIS, p. 259). Identification and analysis of updated water quality information will facilitate the BLM’s implementation of management actions in Table 2.10 (Draft RMP/EIS, page 67), including identification of BMPs and mitigation to reduce sources of pollution.
- Provide additional detail in the Final RMP/EIS to clarify how the BLM will address waterbodies not meeting state water quality standards. We believe this can be best accomplished by working with the Wyoming Department of Environmental Quality (WDEQ) to assist with its development of TMDLs for impaired water bodies and watershed restoration planning. This would include help with identification of existing pollutant source areas and potential BMPs (e.g. from WDEQ’s Nonpoint Source Management Plan, BLM’s Gold Book, and/or the National Resource Conservation Service for sediment etc.). BMPs could then be evaluated and prioritized to address causal factors related to the impairment of water quality. In addition, EPA recommends that watershed restoration planning include the nine minimum watershed planning elements found in chapter 2.6 of the Handbook for Developing Watershed Plans, at: http://www.epa.gov/owow/NPS/watershed_handbook/pdf/ch02.pdf
- Disclose in the Final RMP/EIS any potential impacts to Class I waters (e.g. the Sweetwater River) from proposed management actions and discuss the prohibition against discharges into Class I waters under Wyoming Water Quality Standards (Draft RMP/EIS, pages 261 and 598-610).

Karst

The Draft RMP/EIS does not include complete information or identification of Karst formations in the planning area. Karst formations can be critical groundwater recharge areas because underground channels provide an opportunity for direct aquifer recharge, and they are therefore sensitive to the introduction of groundwater pollution. The EPA recommends the Final RMP/EIS include maps of Karst formations in the planning area for full disclosure.

Wetlands

The Draft RMP/EIS identifies the BLM’s overarching goal to “maintain, enhance or restore riparian-wetland areas” including application of a minimum 500 foot riparian-wetland setback and watershed

monitoring to verify the effectiveness of protections included for mineral resource management in Alternative D (Tables 2.13 and 2.19, pages 81 and 93). We recommend that the Final EIS specify that the setbacks, mitigation, and monitoring will apply to all wetlands regardless of jurisdiction, in accordance with Executive Order 11990. In addition, we recommend that the BLM consider whether any high value wetland areas within the planning area would warrant protection through a no surface occupancy (NSO) stipulation. Factors to consider include but are not limited to: the jurisdictional waters of the U.S.; agency responsibilities under Executive Orders 11990 and 11988; the needs of species of concern; and potential impacts to aquatic communities. Systems such as fens, bogs, springs, hanging gardens and other zones of unique or rare habitat values are often particularly at risk of disturbance and surface occupancy should be restricted within the influence zones of these systems. We additionally provide the following recommendations for your consideration in developing lease stipulations and/or mitigation measures:

- For areas within the influence zones of waters and wetlands such as fens and springs:
 - Consider NSO;
 - Prohibit use of evaporation ponds or other infrastructure that may easily become hydrologically connected with water resources;
 - Review the geology of shallow aquifers to determine the flow patterns supporting water elements such as fens, emergent wetlands, springs, seeps, hanging gardens, streams and ponds.
- To support the watershed monitoring management action (Draft RMP/EIS, page 81) proposed under the Preferred Alternative, the EPA encourages the BLM to:
 - Include wetlands as an integral part of the watershed monitoring program;
 - Monitor lotic or standing water resources such as wetlands for depth, groundwater or water table impact, duration of wetland saturation (and any reductions to that duration), temperature, sediment loading and/or basin filling;
 - Maintain the ability to strengthen protection through adaptive management when monitoring indicates continued degradation of the resources or inadequate responses to the mitigation (e.g., additional site protections, wetland restorations, and/or best management practices); and
 - Identify how mitigation and monitoring will be tracked and reported as disclosure is critical to ensuring the goals and objectives of the overall plan are met.

ATTACHMENT 2
Recommended Groundwater and Surface Water Protection Measures
Lander Draft RMP/EIS

The EPA recommends that the BLM develop lease stipulations designed specifically to protect current and future drinking water resources during this RMP revision. This will take advantage of an important opportunity to avoid and mitigate potentially significant impacts to water resources within the planning area. Based upon our knowledge of the planning area, including the presence of sensitive groundwater and surface water resources designated by the State of Wyoming, the EPA recommends that the BLM consider requiring oil and gas operators to employ where necessary the following measures in the Final RMP/EIS to protect ground and surface waters:

- Sole Source Aquifers
 - Recommend No Leasing
- Source Water Protection Areas and Well Head Protection Areas
 - No Surface Occupancy in Municipal Watersheds
 - No Surface Occupancy in Groundwater Zones 1-3 (for example, the Uinta National Forest Oil and Gas Leasing EIS in Utah provides for No Surface Occupancy in Groundwater Zones 1-3)
 - No Surface Occupancy in Surface Water Zones 1-2 (for example, the Uinta National Forest Oil and Gas Leasing EIS in Utah provides for No Surface Occupancy in Surface Water Zones 1-2)
 - If NSO Stipulations are not in place for the zones above, impose Controlled Surface Use Stipulations within Municipal Watersheds, Ground Water Zones 1-3 and Surface Water Zones 1-3 including but not limited to:
 - Closed loop drilling systems
 - Line surface impoundment ponds (evaporation ponds or drilling pits) with synthetic liners and subsequently decommission by removing all contaminants and liner and reclaiming the area with natural vegetation
 - Identify private wells and set stipulations to be protective (e.g., no occupancy within immediate area, collect baseline data on groundwater, long-term monitoring, replacement of water supply if contaminated, etc.)
 - In leases already permitted but not drilled, impose Conditions of Approval for APDs including but not limited to the Controlled Surface Use stipulations listed above.
- For areas with unconfined shallow groundwater, as determined by viewing well logs and available USGS information, because the shallower the depth to water the more sensitive an aquifer is to contamination, consider:
 - No Surface Occupancy
 - Prohibit use of evaporation ponds in proximity to shallow aquifers
 - Review the geology of shallow aquifers to determine well construction requirements, which may include cementing to surface and drilling with a fresh water mud system
- General recommendations for standard lease stipulations/best management practices:
 - A general well design requirement to set surface casing and cement to a specific formation or depth if there are aquifers at depth that need protection;

- Surface casing needs to be below the lowermost USDW and set into a confining (e.g., shale) layer;
- A requirement for an intermediate string of casing and cement may be appropriate in the event of encountering very deep aquifers;
- Specify in the RMP that future multiple-well oil and gas projects will need a water resource management plan to address water consumption and produced water disposal, including identifying water recycling opportunities
- Specify in the RMP that future multiple-well oil and gas projects will need a Baseline and Long-Term Water Quality Monitoring Plan (the BLM Pinedale Anticline project and the U.S. Forest Service Eagle Prospect project in Wyoming, and the West Tavaputs Plateau Natural Gas Full Field Development project in Utah are examples where similar monitoring plans have been established).
- General recommendations for surface water protection:
 - No Leasing or No Surface Occupancy for 100-year flood plains (e.g. Grand Mesa, Uncompahgre and Gunnison National Forest Oil and Gas Final EIS, Pike Isabel 1992 Oil and Gas Leasing Final EIS)
 - No Leasing or No Surface Occupancy within 500 feet of perennial water bodies (e.g. Casper RMP)
 - No Leasing or No Surface Occupancy within 2500 feet from a major river corridor, and in municipal watersheds (e.g. BLM's Kremmling Draft RMP/EIS contains these provisions)